

Applicant: James Mantyla
Application No.: 10/067,606
Filing Date: February 5, 2002
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A device for plumbing drainage systems said device comprising:

a first tubing element having an attachment bell at one end and a first coupler portion at the other end;

a second tubing element having an attachment bell at one end and a second coupler portion at the other end, wherein said first and second coupler portions are sized and shaped to be coupled together; and at least one of said first or second tubing element is a generally u-shaped section sized and shaped to trap water therein;

a seal sized and shaped to fit between said first coupler portion and said second coupler portion, said seal being sufficiently flexible to form a liquid tight seal; and,

a connector to releasably couple said first and second coupler portions together, and to seat said seal between said first and second coupler portions, wherein said first coupler portion and said second coupler portion are sized and shaped to permit said first and second coupler portions to be coupled together over a range of angles to form a leak resistant joint.

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Claim 2 (currently amended): The device of claim 1 further including an angle stop, for limiting said range of angles, said stop being sized, shaped and positioned to prevent coupling which creates an uphill rise to a downstream element of said first and second tubing elements to promote drainage.

Claim 3 (previously presented): The device of claims 1 wherein one of said first and second coupler portions comprises a bulb and the other of said first and second coupler portions comprises a socket sized so that said bulb may be closely received within said socket, said seal being sized and shaped to be inserted between said bulb and socket to form a liquid tight seal.

Claim 4 (original): The device of claim 3 wherein said bulb includes a part spherical outer surface.

Claim 5 (previously presented): The device of claim 4 wherein said coupling portion defines a tubular section for the passage of waste therethrough and said part spherical outer surface has a center of curvature located approximately on an axial centerline of said first or second tubing element.

Claim 6 (original): The device of claim 5 wherein said part spherical section subtends an arc of between about 30° and 60° in a vertical plane.

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Claim 7 (original): The device of claim 1 wherein said connector may be tightened onto said coupler portions, said connector acting on said seal to form a leak resistant joint.

Claim 8 (previously presented): The device of claims 1 wherein said seal is in the form of a ring which is generally wedge shaped in cross section and which has an inner seal surface, an outer seal surface and a bottom thrust face.

Claim 9 (original): The device of claim 8 wherein said outer seal surface is generally conical.

Claim 10 (original): The device of claim 8 wherein said inner seal surface is sufficiently compressible to become part spherical.

Claim 11 (original): The device of claim 8 wherein said bottom thrust face is generally planar.

Claim 12 (original): The device of claim 8 wherein said seal is molded from a plastic material.

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Claim 13 (original): The device of claim 8 wherein said seal is formed from a material which is at least partially compressible to form a liquid tight seal.

Claim 14 (original): The device of claim 12 wherein said seal is made from molded low density polyethylene.

Claim 15 (previously presented): The device of claim 1 wherein said first coupler portion and said second coupler portion define a generally wedge shaped gap therebetween and said seal is sized and shaped to be received in said wedge shaped gap.

Claim 16 (previously presented): The device of claim 15 wherein said connector is threaded onto one of said first and second coupler portions and includes a rim, said rim comprising a thrust surface for thrusting said seal into said wedge shaped gap.

Claim 17 (withdrawn): A device for plumbing drainage systems, said device comprising:

- a first tubing element having an attachment bell at one end and a first coupler portion at the other end;

- a second tubing element having an attachment bell at one end and a second coupler portion at the other end, at least one of said first and second tubing elements being generally U-shaped and sized and shaped to trap water therein;

wherein said first and second coupler portions are sized and shaped to permit said first and second coupler portions to be snapped together over a range of angles to form a leak resistant joint.

Claim 18 (withdrawn): A device as claimed in claim 1 wherein one of said first and second coupler portions is a female part having a part spherical inner surface, and the other of said coupler portions is a male part having a part spherical outer surface.

Claim 19 (currently amended): A device for plumbing drainage systems, said device comprising:

a first tubing element having an attachment bell at one end and a first coupler portion at the other end;

a second tubing element having an attachment bell at one end and a second coupler portion at the other end, wherein said first and second coupler portions are sized and shaped to be coupled together over a range of angles to form a leak resistant joint; and at least one of said first or second tubing element is a generally u-shaped section sized and shaped to trap water therein;

a seal sized and shaped to fit between said first coupler portion and said second coupler portion, said seal being sufficiently flexible to form a liquid tight seal; and,

a connector to releasably couple said first and second coupler portions together, and to seat said seal between said first and second coupler portions;

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wherein integrally part of said first or second coupler portions is an angle stop,
for limiting said range of angles, to prevent coupling which creates an uphill rise to a
downstream element of said first and second tubing elements.